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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,934	08/30/2001	Joe Cargnelli	9351-072	6332

7590 08/24/2005

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EXAMINER
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DUONG, THO V

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/941,934

**Applicant(s)**

CARGNELLI ET AL.

**Examiner**

Tho v. Duong

**Art Unit**

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 9, 11-33 and 35-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43-47 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 9, 11-29, 33, 35-42 and 48 is/are rejected.
- 7) ☒ Claim(s) 30-32, 49 and 50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/21/2005 has been entered.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the claimed subject matter of “the movable fluid channels providing separate flow communications between the ports and the chambers independent of the attachment of the housing to the casing” is not described in the specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3,5,9,11-20,27,29,33,35-42 and 48 rejected under 35 U.S.C. 102(b) as being anticipated by Thomason (US 5,016,547). Thomason discloses (figures 1-4, A and column 3, lines 37-42) a regenerative energy exchange assembly comprising an exchange media (39) disposed in many media cavities (30-36) having a casing; a first chamber and a second chambers

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having a first, a second fluid channels adjacent the exchange media (39) to pass a first fluid stream and a second fluid stream through the exchange media respectively; the first and second chambers separated by dividers (40,44,50,52); at least one fluid stream diverter (80) being rotatable relative to the chambers and providing separate flow communications to the chambers through the respective fluid channels; the fluid stream diverter having a radial extent that is less than the functional radial extent of the exchange media, wherein, at any given diverter orientation, the separate flow communications are not in fluid communication with the same chamber; an end housing connected to one end of the exchange media (1) and wherein the fluid channels are provided in the end housing; the end housing has interior walls defining an inner enclosure, and the fluid stream diverter (80) is provided in the inner enclosure; the fluid stream diverter is rotatably mounted within the inner enclosure to provide the diverter within the adjustable orientation; a shaft extends rotatably through the exchange media, and the housing wherein the fluid stream diverter (80) is fixed to the shaft; the housing comprises a connection portion and a dispersion portion which are in fluid communication with each other; the dispersion portion has an open end that is in fluid communication with the exchange media; the connection portion has ports in flow communication with the respect fluid channel and has a radial extent that is less than the radial extent of the dispersion portion; the dispersion portion comprises the first and the second chambers. Thomason further discloses (figure 1) the exchange media is housed in a plurality of media cavities (30,32,34,36) that are separated from one another in cross section and extent in parallel along the exchange media; the plurality of media cavities are positioned in correspondence to the chambers of the dispersion portion; the plurality of cavities are disposed within the casing. Thomason further discloses (figure 4) the

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connection portion has an open end and a closing means (110,70), which partially closes the open end. Regarding claim 48, an annular plate (70) is considered to be a sealing means provided between the connection portion (20) of the housing and the fluid stream divider (80) so that no fluid is cross-flow between any channels. Since the channels, ports and chambers are located beyond the joining location between the end housing and the central housing, the attachments between the end housing and the central housing are independent from the flow of fluids between ports, channels and chambers.

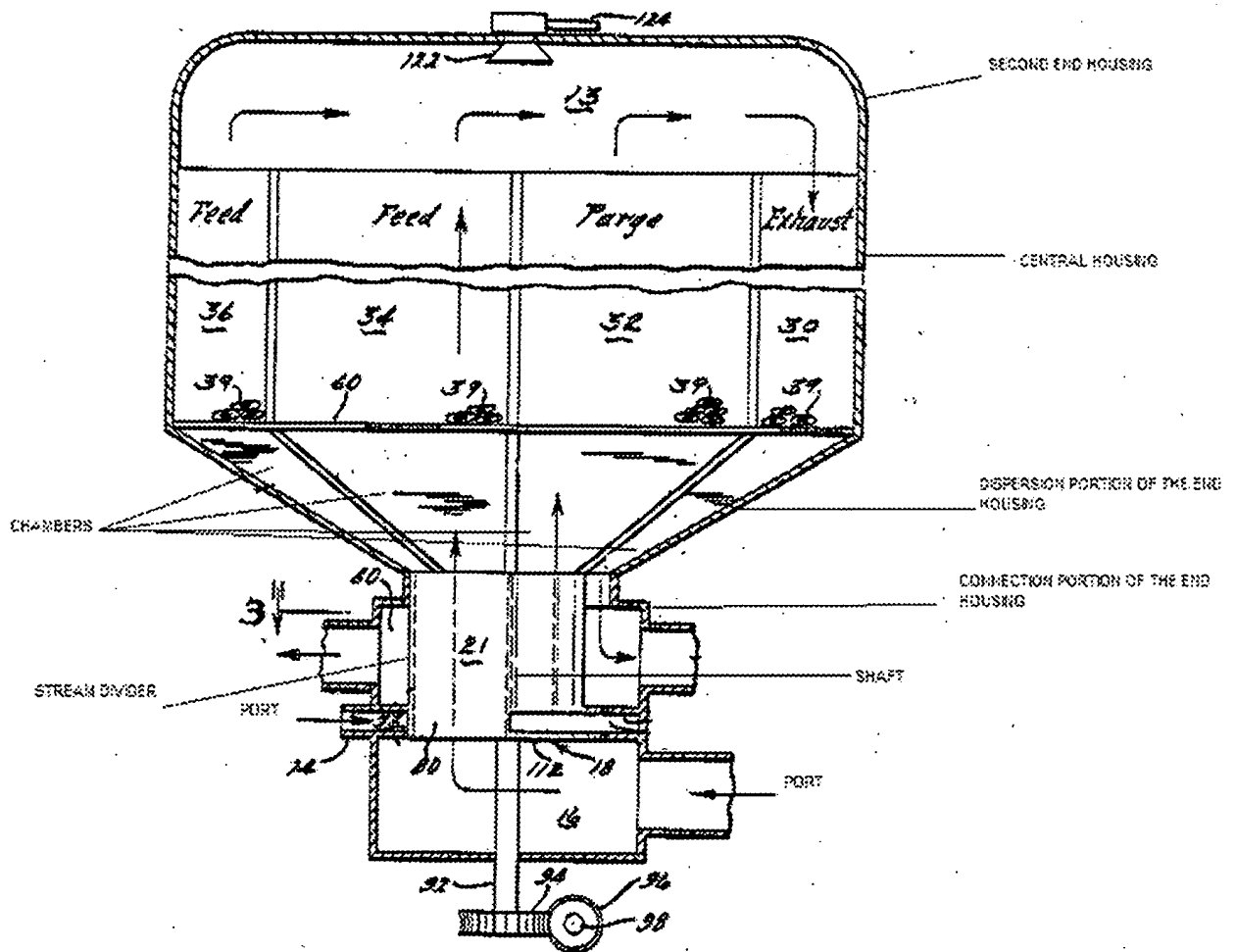


FIGURE A. THE MODIFIED FIGURE CORRESPONDES TO FIGURE 1

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomason in view of Katsu et al. (US 4,856,577). Nakajima substantially discloses all of applicant's claimed invention as discussed above except of the limitation that each cavity media is thermally insulated from adjacent cavities. Katsu disclose (figure 2 and column 1, line 5- column 2, line 63) regenerative heat exchanger that includes a plurality of media cavities (11) wherein the cavities are separated by ceramic bodies, which is a thermal insulating material, for the purpose of reducing the thermal stress due to thermal shock. Since Nakajima and Katsu are both from the same endeavor and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Katsu' teaching in Thomason's regenerative heat exchanger for the purpose of reducing the thermal stress due to thermal shock.

***Allowable Subject Matter***

Claims 43-47 are allowed.

Claims 30-32 and 49-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inuki et al. (US 6,298,877) discloses a distributing valve device for heat accumulation type combustion system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tho v Duong  
Primary Examiner  
Art Unit 3743



TD  
August 9, 2005